REMARKS

Applicants forward herewith certified copies of the applications relied on for priority.

Claim 1 has been amended to assure infringement at the time the goods are sold, prior to being put into use. Claim 10 has been amended so that it cannot be interpreted in accordance with 35 USC 112, paragraph 6, and to overcome the rejection based on 35 USC 112, paragraph 2. The independent claims and some dependent claims have been amended for clarity so that the positional data are now more particularly defined as being associated with a position at which the audio data is to be perceived by a user; see page 10, lines 25-29. Claim 24 has been canceled to expedite prosecution.

Applicants traverse the rejection of claims 1, 2, 5, 9-13, 16 and 22 under 35 USC 103(a) as being unpatentable over the combination of Lapicque, US patent 7,079,658, in view of Gehring, US patent 5,521,981. Because each of independent claims 1, 10-12 and 20 is rejected on the same rationale, the following comments concerning the rejection of claim 1 are applicable to each of claims 1, 10-12 and 20.

Lapicque discloses, at column 3, lines 47-61, audio data source 210 that is included in a three-dimensional sound localization system 200 utilizing a head related transfer function (HRTF) of the type described in connection with Figure 1. Sound localization system 200 also includes left and right speakers 290 and 295, respectively.

Column 3, lines 19-46 indicates the HRTF simulates the human auditory system for a particular person's auditory system or for the auditory system of an average

person. The HRTF includes a linear function that is based on the position of a sound source and takes into account many characteristics of the interaction of sound with the human auditory system so that sounds can be localized. Examples of the characteristics are inter-aural time delays, head shadow, pinna response and shoulder echo. A HRTF is used to develop pairs of filters for specific sound positions using these interactions. Each sound position requires two filters, one for each ear.

Column 4, lines 56-61 and column 4, lines 12-29, indicate audio data source 210 transmits voices 211-218 to audio processing system 220. Each voice represents a specific audio channel, sound source or portion of the audio data. For example, each voice can represent audio data associated with a final output device, or loud speaker, so that, for example, voices 212 and 213 are associated with a right loud speaker, voices 214 and 215 are associated with a left loud speaker and voices 216-218 are associated with a rear loud speaker. Voices 211-218 can also represent a three-dimensional audio type voice (the highest priority type voice) or a two-dimensional audio type voice (an intermediate priority type voice) or a one dimensional audio type voice (the lowest priority type voice). In such a situation, the different voices 211-218 can come from different objects having specific locations within the virtual environment of a computer game.

The office action, in the paragraph at the top of page 5, relies on Lapicque, at column 2, lines 31-49, to disclose different bit-rates for different priority voices. Applicants find no mention of bit rates at column 2, lines 31-49 of the reference. This portion of Lapicque merely indicates that those voices having a higher priority than other

voices have a greater number of coefficients assigned to them than the lower priority voices. Lapicque indicates a dynamic trade-off occurs between sound localization quality and processing effort and/or time occurences by distributing a fixed number of coefficients among a plurality of voices. The examiner has not explained (as he must for a proper rejection) why this necessarily means there are different bit rates for different priority voices; see MPEP Section 2112.

The office action relies on Gehring, at column 2, line 66-column 3, line 11, to disclose an audio source that generates a first set of spatially processed data for transmission over a data link at a first bit rate, and, at column 4, lines 44-50, to disclose a playing terminal that receives a first set of spatially processed data and to output the set of spatially processed data to an audio transducer, and, at column 6, lines 40-50, to disclose sound positioning with some voices and other operations for other voices. While applicants do not agree with these statements in the office action concerning Gehring, they will not belabor the point.

The penultimate sentence of the paragraph at the top of page 5 of the office action states, without a basis in the applied references, that it would have been obvious to one of ordinary skill in the art for the priority set of processed audio sources to have a higher bit-rate as compared to individual sources that are processed after transmission. Firstly, applicants note this comment is irrelevant to applicant's previously submitted claims that required the bit-rate of audio components to be lower than the bit-rate of spatially processed data. The comment is less relevant to amended independent claims 1, 10-12 and 20 that require the audio data to be indicative of aural content of an

audible sound or track and the positional data to relate to a position in space relative to transducers of an audio transducer arrangement at which the audible sound or track is to be perceived by a user.

The rejection of claims 1, 10-12 and 20 is also improper as a matter of law. A proper rejection of claims 1, 10-12 and 20 based on obviousness must provide evidence, for example in the form of a reference, to support the position that it would have been obvious to have a higher bit-rate for a priority set of pre-processed audio sources compared to individual audio sources. MPEP Section 2143 states "the prior art reference (or references when combined) must teach or suggest all the claim limitations." Since there is no art of record, in the rejection of claims 1, 10-12 or 20, for a disclosure of a higher bit-rate for a priority set of pre-processed audio sources compared to individual audio sources, the rejection of claims 1, 10-12 and 20 is improper.

Because independent claims 1, 10-12 and 20 are improperly rejected, the claims dependent on claims 1, 10-12 and 20 are improperly rejected. The secondary references applied against claims 3, 4, 14 and 15, and against claims 6 and 17, and against claim 7, 8, 18 and 19 fail to cure the above noted deficiencies in the rejection of claims 1, 10-12 and 20.

The rejection of independent claim 23 relies on a combination of Lapicque, Gehring, Cashion et al., US patent 5,809,149, Kamiya et al., US patent 6,487,572, and North et al., US patent 6,055,619 to state it would have been obvious to one of ordinary skill in the art to provide a bit rate for audio data relating to aural content of an audible

sound or track to be lower than the bit rate of positional data indicative of the direction from which the aural content appears to be derived. In relying on these five references the examiner has used hindsight to the extreme, to come up with a calculation, not disclosed by the references, to show that **his combination** results in a lower bit rate for audio data than positional data. There is no basis in the references to combine them as the examiner has done. For example, the examiner admits North et al. discloses filters with the same resolution as the input audio. This would appear to teach away from audio data having a bit rate lower than the positional data. The examiner also admits that the combination of Lapicque, Gehring, Cashion et al., and Kamiya et al does not teach a bit resolution of a filter used to arrive at realistic, perceptually continuous filtering in a Head Related Transfer Function arrangement. Hence, the combination of the five references to indicate the obviousness of providing a bit rate for audio data relating to aural content of an audible sound or track to be lower than the bit rate of positional data indicative of the direction from which the aural content appears to be derived is without merit.

In view of the foregoing amendments and remarks, allowance is in order.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 08-2025 and please credit any excess fees to such deposit account.

Respectfully submitted,

Alistair Neil COLES *et al.*

Allan M. Lowe
Registration No. 19,641

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400
Telephone: 703-684-1111
Facsimile: 970-898-0640
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AML/tal